

REMARKS

Continued examination and favorable reconsideration are respectfully requested.

By this Amendment claims 30-45, 49, and 55-56 are pending. Claims 1-29 were previously canceled, and claims 46-48 and 50-54 are hereby canceled without prejudice or disclaimer. Support for the amended claims can be found throughout the original specification, for example, at least at paragraphs [0051] and [0075]-[0077] of the application as filed. No new matter has been added.

Objection to the Specification

At page 2, item 2, of the Office Action, the specification was objected to for not indicating Application Serial No. 09/955,608, as now being U.S. Patent No. 6,726,820 B1. To address the objection, the specification has now been amended to indicate the patent number. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Rejection of the Claims under 35 U.S.C. § 102

At page 2, item 4, of the Office Action, claims 46 and 48 are rejected under 35 U.S.C. §102(a), as allegedly being anticipated by Hiroshi (JP 2001-188061) with evidence from Arai (U.S. Patent No. 6,013,168). Claims 46 and 48 have been canceled, thereby rendering this rejection moot.

Rejection of the Claims under 35 U.S.C. § 103

At page 3, item 8, of the Office Action, claims 30-33, 38-41, 49, and 55 are rejected under 35 U.S.C. §103(a), as allegedly being unpatentable over Hiroshi, in view of Arai, and either

Zanzucchi et al. (U.S. Patent No. 5,585,069), or Kercso et al. (U.S. Patent No. 6,132,685). For the reasons set forth herein, Applicant respectfully traverses this rejection.

Claim 30 features a system for analysis of one or more biomolecules that includes a microdevice comprising a readable and rewriteable memory, and a reader-writer unit configured to write information stored in memory about a character or a sequence of one or more biomolecules, to the readable and rewriteable memory. Hiroshi describes a microchip for electrophoresis analysis. The Office Action recognizes that Hiroshi fails to teach or suggest storing information about an analyte into memory on a chip. The Office Action asserts that the combination of Arai, Zanzucchi et al., and Kercso et al. teach such a feature. Applicant respectfully disagrees.

Arai describes a microchip electrophoresis apparatus, but fails to teach or suggest any sort of memory whatsoever, integrated in a microdevice. The device of Zanzucchi et al. and the system of Kercso et al. both describe the use of a barcode reader. This is very different from what is presently featured in claim 30. The system of claim 30 features a readable and rewriteable memory, and a reader-writer unit configured to write information to the readable and rewriteable memory. Such features allow information to be written to and retrieved from the microdevice. A barcode reader is just that – a reader. A barcode reader only allows information to be read. No information can be written by a barcode reader. On the other hand, the claimed system has a readable and rewriteable memory and a reader-writer unit configured to read, write, and rewrite information from and to the memory. The claimed system allows for information to be transferred from elements of the system such that information can be read from the memory and information about a character or a sequence of a biomolecule in the microdevice can be written to the memory. In some embodiments, the writing can take place while the biomolecule is present within the microdevice, for example, as the

system is in operation. The claimed system provides a number of advantages over a barcode reader system because information in memory can be updated, adjusted, or changed on the spot.

Accordingly, Hiroshi in combination with Arai, Zanzucchi et al., and Kercso et al., even if such combination were proper, fails to teach or suggest a system having the features of claim 30. In view of this, the rejection of claim 30 is deemed to be overcome.

Claims 32-33 and 38-41 each depend from claim 30. The rejection of these claims is deemed to be overcome for at least the same reasons that the rejection of claim 30 is deemed to be overcome.

Independent claims 49 and 55 also feature a readable and rewriteable memory integrated into the substrate of a microdevice, and a reader-writer unit configured to write information about a biomolecule character or sequence to the readable and rewriteable memory. As previously mentioned, Hiroshi, in combination with Arai, Zanzucchi et al., and Kercso et al., even if such combination were proper, fails to teach or suggest such features. As a result, the rejection of claims 49 and 55 is deemed to be overcome. Reconsideration and withdrawal of the rejection are respectfully requested.

At page 6, item 16, claims 30-33, 38-41, 49, and 55, are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hiroshi, in view of either Fujimiya et al. (presumably U.S. Patent No. 5,190,632), or Simpson et al. (U.S. Patent No. 6,017,434). For the reasons set forth herein, Applicant respectfully traverses this rejection.

Fujimiya et al. describes a multi-colored electrophoresis pattern reading system. Fujimiya et al., however, fails to teach or suggest a readable and rewriteable memory, let alone, such a memory integrated into the substrate of a microdevice. Fujimiya et al. also fails to teach or suggest a reader-writer unit configured to write information about a character or sequence of a biomolecule, to a

readable and rewriteable memory. As a result, Fujimiya et al. fails to overcome the deficiencies of Fujimiya et al. and/or those previously described for Hiroshi with regard to claim 30. Simpson et al. describes an apparatus and for analysis of biopolymer samples. Simpson et al., however, fails to teach or suggest a readable and rewriteable memory and a reader-writer unit configured to write information about a biomolecule character or sequence to a readable and rewriteable memory. As a result, Simpson et al. fails to overcome the deficiencies of Fujimiya et al. and/or those previously described for Hiroshi with regard to claim 30.

Accordingly, Hiroshi in combination with Fujimiya et al. and/or Simpson et al., even if such combination were proper, fails to teach or suggest a system having the features of claim 30. In view of this, the rejection of claim 30 is deemed to be overcome.

Claims 32-33 and 38-41 each depend from claim 30. The rejection of these claims is deemed to be overcome for at least the same reasons that the rejection of claim 30 is deemed to be overcome.

Independent claims 49 and 55 also feature a readable and rewriteable memory integrated into the substrate of a microdevice, and a reader-writer unit configured to write information about a character or sequence of a biomolecule to the readable and rewriteable memory. As previously mentioned, Hiroshi, in combination with Fujimiya et al. and/or Simpson et al., even if such combination were proper, fails to teach or suggest such features. As a result, the rejection of claims 49 and 55 is deemed to be overcome. Reconsideration and withdrawal of the rejection are respectfully requested.

At page 7, item 21, claims 34-36, are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hiroshi, in view of Arai, and Zanzucchi et al. or Kercso et al., or over Hiroshi in view of either Fujimiya et al., or Simpson et al., and further in view of either Bjornson et al. (U.S.

Patent No. 6,103,199), or Parce et al. (U.S. Patent No. 6,458,259), with or without the further teaching of Kroy et al. (U.S. Patent No. 5,252,294). For the reasons set forth herein, Applicant respectfully traverses this rejection.

Bjornson et al. describes a capillary electroflow apparatus and method. Bjornson et al., however, fails to teach a system comprising a readable and rewriteable memory, let alone, integrated into a substrate, or a reader-writer unit configured to write information about a character or sequence of a biomolecule to a readable and rewriteable memory.

Parce et al. describes methods and apparatus for reducing adsorption in microscale devices. Kroy et al. describes a microchemical structure for analyzing sample substances. Parce et al., and Kroy et al., each fail to teach or suggest a system comprising either the feature of a readable and rewriteable memory or the feature of a reader-writer unit configured to write information about a character or sequence of a biomolecule to a readable and rewriteable memory. In view of this, Parce et al., and Kroy et al., fail to overcome the deficiencies previously mentioned for Hiroshi with regard to claim 30, which deficiencies also exist with respect to Arai, Zanzucchi et al., and Kercso et al., as discussed above. The deficiencies of Fujimiya et al. and Simpson et al. are described above. Each of Fujimiya et al. and Simpson et al. fails to teach or suggest a readable and rewriteable memory, let alone such a memory integrated into the substrate of a microdevice or a reader-writer unit configured to write information about a character or sequence of a biomolecule, to a readable and rewriteable memory. Claims 34-36 each depends from claim 30, and the rejection of claims 34-36 is deemed to be overcome for at least the same reasons that the rejections of claim 30 are deemed to be overcome. Reconsideration and withdrawal of the rejection are respectfully requested.

At page 8, item 25, claim 37 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hiroshi, in view of Arai, and Zanzucchi et al. or Kercso et al., or over Hiroshi in view of either Fujimiya et al. or Simpson et al., and further in view of Bjornson et al. (U.S. Patent No. 6,103,199). For the reasons set forth herein, Applicant respectfully traverses this rejection.

Bjornson et al. describes a capillary electroflow apparatus and method. As discussed above, Bjornson et al., however, fails to teach a system comprising a readable and rewriteable memory, let alone integrated into a substrate, or a reader-writer unit configured to write information about a character or sequence of a biomolecule to a readable and rewriteable memory. In view of this, Bjornson et al. fails to overcome the deficiencies previously mentioned for Hiroshi with regard to claim 30. Arai, Zanzucchi et al., Kercso et al., Fujimiya et al., and Simpson et al., all share these same deficiencies. No matter the combination of these references, the claimed invention is still not achieved. Furthermore, claim 37 depends from claim 30, and the rejection of claim 37 is deemed to be overcome for at least the same reasons that the rejections of claim 30 are deemed to be overcome. Reconsideration and withdrawal of the rejection are respectfully requested.

At page 9, item 27, claim 42 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hiroshi, in view of Arai, and Zanzucchi et al. or Kercso et al., or over Hiroshi, in view of either Fujimiya et al. or Simpson et al., and further in view of Kaltenbach et al. (U.S. Patent No. 5,641,400). For the reasons set forth herein, Applicant respectfully traverses this rejection.

Kaltenbach et al. describes miniaturized planar column devices and miniaturized total analysis systems for liquid phase analysis. Kaltenbach et al., however, fails to teach a system comprising a readable and rewriteable memory, let alone integrated into the substrate of a microdevice, or a reader-writer unit configured to write information about a character or sequence of a biomolecule to a readable and rewriteable memory. In view of this, Kaltenbach et al. fails to

overcome the deficiencies previously mentioned for Hiroshi and the many other references applied, as discussed above with regard to claim 30. Claim 42 depends from claim 30, and the rejection of claim 42 is deemed to be overcome for at least the same reasons that the rejections of claim 30 are deemed to be overcome. Reconsideration and withdrawal of the rejection are respectfully requested.

At page 9, item 29, claims 43-45 and 56 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hiroshi in view of Arai, Zanzucchi et al. and/or Kercso et al., and Kaltenbach et al. For the reasons set forth herein, Applicant respectfully traverses this rejection.

As previously mentioned, Hiroshi, Arai, Zanzucchi et al., Kercso et al., and Kaltenbach et al. each fails to teach or suggest a system comprising a readable and rewriteable memory and a reader-writer unit configured to write information about a character or sequence of a biomolecule to the readable and rewriteable memory. Moreover, each of these references fails to teach or suggest such a system wherein a readable and rewriteable memory is integrated into the substrate of a microdevice. The systems of claims 43 and 56 each comprise these features. Accordingly, the rejection of claims 43 and 56 is deemed to be overcome. Claims 44-45 depend from claim 43, and the rejection of claims 44-45 is deemed to be overcome for at least the same reasons that the rejection of claim 43 is deemed to be overcome. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

At page 11, item 33, claims 43-45 and 56 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hiroshi, in view of either Fujimiya et al. or Simpson et al., and Kaltenbach et al. For the reasons set forth herein, Applicant respectfully traverses this rejection.

As previously mentioned, Hiroshi, Fujimiya et al., Simpson et al. and Kaltenbach et al. each fails to teach or suggest a system comprising a readable and rewriteable memory and a reader-writer unit configured to write information about a character or sequence of a biomolecule to a readable

and rewriteable memory. The systems of claims 43 and 56 each comprises these features. Accordingly, the rejection of claims 43 and 56 are deemed to be overcome. Moreover, claims 44-45 depend from claim 43, and the rejection of claims 44-45 is deemed to be overcome for at least the same reasons that the rejection of claim 43 is deemed to be overcome. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

At page 12, item 37, claim 47 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hiroshi in view of Kaltenbach et al. Claim 47 has been canceled, thereby rendering this rejection moot.

Double Patenting Rejection of Claims 30-49, 55, and 56

At page 13, item 40, claims 30-49, 55, and 66 are provisionally rejected on the grounds of non-statutory, obviousness-type double patenting over co-pending claims 1-15 and 28 of U.S. Patent Application No. 10/959,746, with or without Hiroshi. Applicant submits herewith a Terminal Disclaimer addressing U.S. Patent Application No. 10/959,746, and the appropriate submission fee, thus rendering the rejection moot.

CONCLUSION

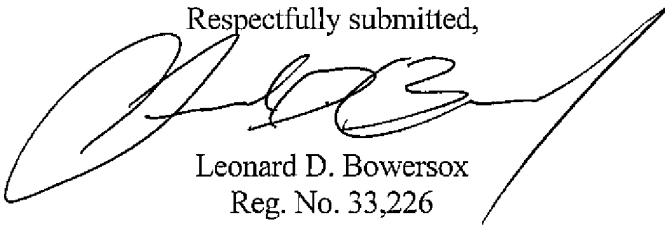
In view of the foregoing remarks, Applicant respectfully requests favorable reconsideration of the present application and a timely allowance of the pending claims.

Should the Examiner deem that any further action by Applicant or Applicant's undersigned representative is desirable and/or necessary, the Examiner is invited to telephone the undersigned at the number set forth below.

U.S. Patent Application No. 10/800,388
Amendment and Reply Dated August 19, 2008
Response to Office Action dated May 27, 2008

If there are any other fees due in connection with the filing of this response, please charge the fees to deposit Account No. 50-0925. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and should also be charged to said Deposit Account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'L. Bowersox', with a long, sweeping horizontal stroke extending to the right.

Leonard D. Bowersox
Reg. No. 33,226

KILYK & BOWERSOX, P.L.L.C.
3925 Chain Bridge Road
Suite D-401
Fairfax, Virginia 22030
Tel.: (703) 385-9688
Fax.: (703) 385-9719